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\$50,000,000 FOR ROAD WORK IN NEW YORK STATE

By W. Pierrepont White of Utica, N. Y.

*Chairman of the Executive Committee of the Supervisors' Highway Convention, Representing
350 Delegates from 58 Counties*

THE State of New York is confronted with a very serious proposition. The policy of the State for years past has been the development of through transportation by the spending of state money on the canals and the granting of franchises to steam railroads until this policy has concentrated in cities of New York and Buffalo 85 per cent of the taxable values of the state.

Canals and roads are of equal importance in developing the commercial supremacy of the state.

The one sided policy of developing through transportation, while it has made New York city the money centre of the world, has just as absolutely and literally starved the farming communities of the state by carrying past their doors the farm products of the west to feed the citizens of New York city and left the farm products of the State of New York, either undeveloped or rotting on the ground for lack of cheap transportation to our present shipping centers.

The Federal census shows that the State of New York, during the year 1890 to 1900, fell from third to fourth rank in agriculture in the Union, and that the farms, fences and buildings depreciated \$70,000,000. This shows plainly how rapidly this one sided policy of the development of through transportation has destroyed our farm values.

This same condition of shrinkage of farm values might have occurred in all the states adjoining New York, but the Federal census shows that New York and Pennsylvania were the only two states that decreased in value during this period and that Mas-

sachusetts increased 23.7 per cent. This immediately starts the inquiry why has Massachusetts, which is not an agricultural state as compared with New York State, increased its farm property \$35,000,000 in ten years, while New York State decreased its farm property \$70,000,000 in the same period. Is it because Massachusetts has improved its highways and commenced the development of a park system and made the country accessible and attractive for people to dwell in? And this condition of affairs confronts us with the following inquiries.

Which is the most important to the commercial supremacy of New York State?

The spending of \$100,000,000 on the canals to cheapen through transportation of farm products from the west;

Or the spending of \$50,000,000 on our highways to develop values in our own farm lands, and to bring our own farm products to our own markets?

The cities want canal improvements and the farm owners want road improvement and the Empire State is able to give both without a burdensome tax rate.

It is beyond the question of a doubt that street railways create values in cities, villages and in the country on account of rapid transit, and it is equally beyond question of a doubt that a system of improved highways creating rapid transit for the country would create values in the rural districts.

\$1.25 will haul a ton 5 miles on a common road.

\$1.25 will haul a ton 25 miles on a trolley road.

\$1.25 will haul a ton 250 miles on a steam road.

\$1.25 will haul a ton 1000 miles on a steamship.

Now to get at the situation desired to be reached in New York State, remember that on a well made stone road \$1.25 will haul a ton 12 to 15 miles in the United States, or for less than one half the cost of our present dirt roads. England and Wales expend annually \$20,000,000 on their highways, while France expends \$37,500,000.

There are 28,126,393 acres of land in New York State that are assessed for taxation. Should the creation of an intelligent road system and the improvement of our present highways add \$10.00 an acre to the value of this land, it would increase the State assets \$381,263, 980.

HIGBIE-ARMSTRONG BILL

The improvement of public highways under Chapter 115 of the Laws of 1898 provide that the main highways may be designated by the Board of Supervisors in each county for improvement subject to the approval of the state engineer, and that the cost of the improvement would be paid 50 per cent by the state, 35 per cent by the county and 15 per cent by the town according to the mileage built in each town.

The following table shows the progress of the work during the past six years:

YEAR	Total State appropriations	Total Appropriations by counties	Total mileage covered by first Petition	Total mileage of roads adopted by counties	Total mileage of completed improved roads
1898	\$ 50,000	\$ 68,872	505	21	0
1899	50,000	42,876	157	9	5
1900	150,000	431,227	155	130	35
1901	420,000	1,055,874	495	247	20
1902	795,000	1,748,115	1,106	418	126
1903	600,000	2,198,623	1,728	427	112
1904	1,106,507				
	\$3,171,507	\$5,540,587	4,143	1,252	298

All of the counties of the state on the first of January, 1904, with the exception of Alleghany, Franklin, Schoharie, Schuyler, Tioga, Wayne and Wyoming, had filed petitions re-

questing road improvement under this act. Twenty-seven counties had 500 miles of highway finished or under construction at the cost of about \$4,000,000 and thirty-five counties had appropriated \$3,557,285 as their half of the cost of from 2 to 96 miles in their respective counties, and 50 counties had petitioned for the improvement of 4,143 miles of highway throughout the state.

SLOWNESS

So great is the demand and so slow the completion of the work, the state having been six years in completing 300 miles of highways and the counties having petitioned for 4,143 miles for immediate attention, that it became evident that a plan must be devised by which the situation throughout the state could be handled intelligently, and the Supervisors Highway Convention in 1903 laid out the following plan in the following language, adopting the report of its committee:

"Your committee believe that it will be advantageous to the interests of the State of New York to lay out a positive and definite line of action in regard to road improvement for this State. We believe that with such a plan outlined and brought to completion that the returns in increased values to the farm lands through accessibility and through cheapened transportation of farm products, would add largely to the value of real estate throughout the entire State.

The State of New York contains 50,000 square miles of area, and this is made accessible to its people by 74,097 miles of dirt highways, 8,114 miles of steam roads, 1,618 miles of electric trolley roads, mostly in use in the cities and about 522 miles of canal, and over this system of dirt highways, steam roads and waterways, the entire commerce of the state is carried. The steam roads and electric roads are maintained and operated by private corporations, the 522 miles of canal are maintained by the state at an expenditure of about \$2,000,000 annually, while the 74,097 miles of high-

way are practically without state maintenance and without a state policy for development and improvement.

Your committee believe that the State of New York should expend sufficient money to thoroughly construct and maintain 10 per cent of the entire highway mileage of the state, being the main market roads, which would call for the state building approximately 7,500 miles of highway, leaving the remaining 66,597 miles of dirt roads to be maintained

the Higbie-Armstrong Act of approximately \$53,000,000, an amount much less than is suggested for the improvement and enlargement of the Erie Canal.

Your committee believe that the Erie Canal has fostered the great commercial interests of the state and created immense values in the cities, and we believe that the expenditure of \$50,000,000 on the highways of the state would more than compensate the state for the expenditure



Courtesy of the Horticultural Department, Cornell University
A ROAD IN THE PROCESS OF CONSTRUCTION

by the counties in which they are situated.

Your committee believe that the 7,500 miles of state roads should be laid out so as not only bring about continuous stretches of improved way from one end of the state to the other, but to primarily bring produce from now inaccessible parts of the state to the shipping centers. Such a policy as this would call for the expenditure of probably less than \$7,000 a mile for the 7,500 miles to be improved, and would call for a total expenditure on the part of the state, counties and towns, as provided by

incurred. An increase of one dollar an acre in value for each of the 21,961,552 acres of farm lands would make an increased value on state property of \$21,961,562."

In order to carry out the plan as adopted above it was necessary to amend the Constitution of this state.

PASSAGE

This amendment must be again passed by the Legislature for 1905 and then submitted to the voters in 1906.

POSSIBILITIES

Under the foregoing Constitutional amendment it will be possible, by

the enactment of the statutes made possible thereunder, to thoroughly construct at least one mile in every ten of all the highways in every county in the state, so as to have a state system of 7,500 miles of road, so laid out by the local board of supervisors in each county as to bring about not only continuous stretches of improved highways from one end of the state to the other, but to primarily bring produce from now inaccessible parts of the state to the shipping centers. These roads can be built of gravel or macadam or any other suitable material, at an expenditure of not more than \$7,000 a mile, or a total of \$53,000,000 for the entire highway system of 7,500 miles, and the same could be paid for by the issuing of bonds under the Constitutional amendment, not in excess of \$5,000,000 of bonds in any one year, so that at the end of ten years from the beginning of the work every county in the state would be enabled if it so desired, to have one mile in every ten of all the highways built and completed within ten years from the beginning of the work; and this irrespective of the assessed valuation of the county. The roads could be paid for when the bonds were issued, 50 per cent or \$25,000,000 by the state at large, 35 per cent or \$17,500,000 by the counties receiving the roads, and 15 per cent or \$7,500,000 by the towns in which the roads are built, according to the cost of the roads in each town.

ADVANTAGES

This proposition is particularly advantageous to the counties and towns because there would be no bonding on the part of the towns and counties for the building of these roads, and they would be charged annually by the Comptroller of the state with an amount equal to 3 per cent interest and a 2 per cent sinking fund on the cost of the roads in the respective counties and towns. In other words if the road cost \$8,000 a mile the state would pay \$4,000, the county \$2,800 and the town \$1,200, and for the \$3,-

000 the entire cost of the one mile of road, state bonds would be issued payable in fifty years at 3 per cent interest and a 2 per cent sinking fund. The state would pay the first year 5 per cent. on \$4,000 or \$200, the county would receive notice from the Comptroller to increase its tax levy \$140 for this one mile of road, which is 5 per cent interest and sinking fund on 35 per cent of the total cost of \$8,000 per mile, and the Comptroller would also notify the county to collect from the town \$60, being 5 per cent interest and sinking fund on 15 per cent of the entire cost of one mile of road to the town.

MISMANAGEMENT

Those interested in the good roads work are fully aware that both under the money system and under the Higbie-Armstrong bill there will be some inefficiency of work, due to the fact that the highway commissioners and road engineers are inexperienced, and call particular attention to the fact that as a general rule and that as a general proposition there is nothing intentional on the part of the highway commissioner or the road engineer in omitting from the work of road construction and maintenance any element which will tend to make the best roadways possible; but that when the people of the State of New York as a unit are calling for a change of the road system from the conditions which have existed during the past hundred years, to having a new and better system, that they must carry in mind these facts: the total mileage of the state of New York is 74,097 miles, a distance equivalent to three times around the earth at the equator, and out of this total mileage they are separating a system of 7,500 miles of highway to be built with gravel or macadam in this state, and this system is equivalent in length and importance to the entire steam railroad mileage of the state, in which are engaged thousands of men, hundreds of sections bosses and hundreds of engineers. When we come to look at the experience of the steam roads

in building and re-building their roads as private corporations, and know that each time that they made a mistake it has cost them money, and to correct the mistake they got out and built again until we see that they passed from a 20 pound rail to a 120 pound rail, and from a three car train to a 150 car train. When these facts are before us we can understand that when we, as a state, take up the question of road improvement we will undoubtedly have mismanagement from inexperience, and we must therefore, have some leniency when errors in judgment are made, as they are simply the foundation for better work in the future.

The development of our highways is a question of the greatest commercial importance affecting the transportation of the farm products of this state, and it is of as much importance to the interests of the state of New York to spend the necessary money to develop a system of improved highways in this state as it is to spend \$101,000,000 on the Erie Canal to cheapen transportation on railroads controlled by corporations.

There is no question of doubt but that the improvement of our highways would bring to the state of New York increased farm values just the same as paving streets brings increased values to city property.

DUTY OF THE STATE

It is the duty of the state to levy its taxes and expend its revenues so as to equally develop the interests of all classes. It is a crying crime that the transportation question for the ag-

ricultural interests of the state have been neglected so many years and no effort made on the part of the state to develop them.

FUTURE

The completion in the next ten years of these plans will not only restore to the farm lands values, which in the past ten years have shrunk \$70,000,000, but will bring the State of New York up to the second place in agriculture among all the states in the Union. In addition to that it will bring to the State of New York immense numbers of summer visitors from other parts of the United States and from Europe, to enjoy our delightful mountains, our river scenery, our interior scenery and good air. With this expenditure for roads the state is on the verge of the most prosperous era that has ever come to it, and there will be an equalization between the values in the country and the city which will be simply stupendous. The total number of acres of land in the state is 32,000,000, and the increasing of the value of this property \$10 an acre would create the stupendous sum of \$320,000,000.

There is no other recognized method of equalizing the values so that the cities and country districts shall bear their proportion of taxes, except by the cities joining in the cost of the road construction and the creation in this way of immense values throughout the entire state, and in return cheapening the cost of transportation of farm products to the city consumer.

AGRICULTURAL ARGENTINA

By M. Quiroga, Grad

AN idea of the potentiality of Argentina is afforded in a statistical pamphlet issued by the Argentine Commission at the St. Louis World's Fair. Very valuable graphic charts are offered as illustration. They are credited to Mr. Ernesto Nelson, a friend of Cornell,

who delivered an interesting lecture on Argentina before the Lazy Club at the beginning of the present calendar year.

The land surface of Argentina is 730 million acres. Sixteen million acres are under grain, while the surface suitable for cultivation, in round

numbers, is about 250 million acres. The increase in cultivated area from 1860 to 1890, if compared with that of other agricultural countries, is remarkable.

The following comparative table gives a suggestive account of this relation:

Countries	1860	1880	1890
Argentina	1	3.5	16.8
Australia	1	3.3	12.2
United States	1	1.8	4.4
Canada	1	1.3	3.7
Brazil	1	2.0	3.0
Algeria	1	1.2	1.3
Egypt	1	1.3	1.5
Europe	1	1.16	1.24

The 7,500,000 acres which were under cultivation in 1890 have been increased to 23,500,000 in 1903.

The increase in value of agricultural products from 1887 to 1903 is great. The value of grain increased from 40 millions in 1887 to 160 millions, green crops from 35 to 100 millions, garden products from 10 to 15 millions, dairy from 20 to 25 millions, meat from 30 to 60 millions and sundries from 70 to 100 millions. The production per capita increased from \$67 in 1887 to \$94 in 1903.

The actual production of meat is 533,000 tons. This number can possibly be increased to 2,500,000 tons. The 195,000 tons of mutton production may be increased to 2,200,000 tons. The butter export of Argentina in 1895 was 1,000,000 pounds, 2,600,000 pounds in 1899, being increased in 1903 to 11,725,000 pounds.

The growth of Argentina wool export in twenty years is also immense.

In 1883 the export was 257 million pounds, 268 millions in 1893 and 457 million pounds being the report for 1903. The increase of agricultural capital in million dollars is nearly double that recorded seventeen years ago. The 555 million dollars capital recorded in land in 1887 have been increased to 1250 millions in 1903; 245 million dollars in cattle to 500 millions; and for sundries the record is increased from 85 to 300 millions dollars. The rate of increase per capita is nearly double also. In 1887 it was \$220 and \$410 in 1903.

The profits of capital invested in agriculture in Argentina are 25 per cent higher than those recorded for the United States which are 19 per cent. The profits of Australian capital invested in agriculture are 1 per cent less than those for the American capital.

The inducements to investors in agriculture in Argentina are great and promising for large as well as for small capital. Alfalfa and other grasses are grown on a large scale, practically free from expense. Grass is sown at the same time with wheat, linseed and oats. In many places the live stock is raised and fattened on irrigated alfalfa fields which on every 25 acres support for breeding purposes from 20 to 60 cows or for fattening 20 to 30 bullocks.

In general, the economical conditions of the country are not only favorable but good. The imports and exports of Argentina for 1903 amounted to \$352,000,000, an average of \$70 a head—unequalled by any other country.



REMINISCENCES OF NEW ENGLAND LIFE AND AGRICULTURE

By T. S. Gold.

Formerly Secretary of the Board of Agriculture, Conn.

THIS subject is so broad that I must confine myself to one condition or feature of Rural Life.

Since people many years ago were dependent upon wood as the only source of heat for warming houses and cooking, though there was every stage from profusion to scarcity, results were the same in general, differing only in degree. Hence this feature in the first half of the last century with its effects upon family and social life will be my subject leaving for the present the more obvious changes in all departments of husbandry, though each branch would merit our attention and prove worthy of consideration as each contributed its share to the progress of humanity. My memory covers three quarters of the last century, and I was conversant with those who were active in the previous one.

Wood was the sole article of fuel in the country. Coal was introduced into New Haven between 1830 and 1840. At that period Professor Olmsted of Yale invented his stove for burning coal, and Dr. Nott, president of Union College, invented one also. Both stoves were named after their inventors and became very popular for their special uses.

In 1816 my father was at the Yale Medical School and boarded with a respectable family in moderate circumstances. In cold weather in the morning the old gentleman would place two sticks of green wood over the andirons in the fire-place with coals from the kitchen which he would blow into a flame, and after breakfast would pull them apart and let them rest until noon when he would repeat the operation, and again at evening, when at last the sticks were allowed to burn up. This was close economy to the youth from these forest clad hills, where "a man was fam-

ous according as he lifted his axes against the thick trees."

Country houses were so constructed that the back log could be drawn in by a horse, attached to it by an iron dog (a wedge with a ring in one end for a chain) driven into the end of the log. These logs from four to eight feet long often lasted several days together with the top back log and fore sticks. The fire places were large enough to accommodate these logs, also the frying pan, the peel or long handled shovel, the stout crane with its hooks and trammels, and that household friend the "warming pan." Here too was a safe storage place for articles easily frosted, and a snug retreat for the children.

A description of the old fireplace would be incomplete without naming the old three gallon dye pot for indigo blue, used for dyeing wool for clothing, mittens and stockings. This earthen pot with its wooden cover was often used as a seat, and an occasional calamity resulted when from some cause or other it was upset, incurring not only the loss of the costly dye, but also an intolerable odor, the removal of which put to the test the draught of the big chimney. These incidents seem trivial to us but we cannot without some knowledge of them judge of the condition of life of our ancestors.

During the early part of the last century Franklin stoves were generally introduced for the sitting room, and offices, and cooking stoves for the kitchen. Various new patterns have been patented, but in general the old style ones still hold the ground in rural districts.

By the side of the great fire place was the big oven of brick and stone. According to memory and abundant tradition this could bake bread or pies, roast a pig or turkey as well or better

than any modern oven. Supplementary to this was the bake box of cast iron, nearly two feet in diameter and eight inches deep with a cast iron lid. When its contents were ready for baking it was covered up in the hot coals under the fore stick and in due time never failed to do good work, but it was a strain on the judgment of the good housewife, sometimes compelled to stand against the impertinence of the children or the suppressed impatience of guests, when from necessity the meal was delayed. But it was a good worker and "peace to its names." For a competitor try roasting potatoes, white or sweet, or an egg in the hot embers in an open fire place or stove, first wrapping the egg in wet paper.

The direct rays of the sun give the most vivifying heat. The half frozen lamb or the half drowned chicken feels that reviving power. Next to this comes the radiant heat from a blazing wood fire. Even the little smoke escaping into a room from an open fire, though it is an annoyance to the neat housekeeper, is a most valuable disinfectant, and no system of ventilating a sick room is better than the simple one of an open wood fire drawing from every nook and corner all the poisonous germs, and not only removing them but most effectively destroying them.

Then the old fire-place, if it did not itself teach "manners," was a royal good place for testing them. "Don't go before the fire." "Don't stand before the fire," i. e. when others are sitting by it, taught every child in a plain way to regard the rights and comforts of others.

The one great fire that at the same time cooked the food and gathered the family around it for warmth, secured familiar social intercourse with a bond never exercised by radiators and steam pipes.

The news in the city papers that some of the schools were closed on account of the recent cold snap, and the great inconvenience to persons who select furnace heat in their dwellings

and offices as the sole source of warmth, even when there is not a strike at the coal mines, reminds us of the independence of the farmer with forest growth to supply all his wants for timber and fuel—an independence we say that more than compensates him for the lack of a furnace heater, however well it may perform its duty. What could compensate us for the loss of the companionship of an open wood fire, brought up to it as we were, with all our memories of home, parents, brothers, sisters and friends gathered about it. When the shades of evening are falling and we rest the eyes as well as the body, and watch the ascending smoke and the blaze, and later as the brands lie on the hearth and the ashes cover their glowing coals, then is a time for meditation profitable for mind and heart. This is the time for the farmer to study the burning qualities of different varieties of wood, for he can make a crackling fire that can be heard all over the house, or he can make a quiet fire that will never make a sound. He can test green wood and dry; he can build a quick fire or a slow one, or one that is long enduring, lasting even for days without replenishing. The covering up at bedtime is no task but a pleasure. The ashes are carefully distributed over the coals and burning wood at just the right time, and in the morning there is a nice bed of coals.

Then there is food for thought as an ancestral house or barn is worked up into fire wood, or, as an old apple tree or hickory that has sheltered or fed six or seven generations of our kin, lies burning on the andirons. Is not this the time for memories, reminiscences of wasted opportunities, of joys and sorrows, of thankfulness for past mercies and blessings, and for reviving faith and hope for the future?

I am reminded that an open grate for coal is a near relative, and "most as good" as an open wood fire. I have been in the habit of stopping at a somewhat old fashioned hotel in one of our cities, which has a few rooms

heated by open grates, and as the oldest guest, the landlord, at my request, allowed me the occupancy of one of those rooms. It must have been a great necessity for privacy that would have induced me to invite a friend to my room if heated by a steam pipe, but when I could offer an open grate even with coal I was gratified at the oft expressed pleasure of my guests as we sat before the fire.

We had no matches in early days, so when the fire failed to burn, the tinder box with flint and steel was

the usual resort. I carried with me to Yale in 1834 the identical tinder box that my father had used twenty five years before. There I found lucifer matches in recent use and the tinder box no longer needed was lost. It was a custom when one's hearthstone retained no spark to beg or borrow fire from some more fortunate neighbor, one of those little dependencies and obligations that served to promote harmony and good-will in a neighborhood.

DEATH OF WILLIAM D. BARNES OF MIDDLE HOPE, N. Y.

By John Craig

Professor of Horticulture in Cornell University

ON the morning of Tuesday, Oct. 18th, there passed away at the Barnes' homestead farm at Middle Hope a progressive fruit-grower, a staunch citizen and a good man. William D. Barnes was known to a number of the members of the present graduate and undergraduate classes of the College of Agriculture through his brief visit to Cornell last winter, at which time on the spur of the moment he gave an informal address on fruit-growing to the members of one of the advanced classes in horticulture.

Mr. Barnes was closely indented with intensive horticulture for more than thirty years. His farm at Middle Hope, near Newburgh on the Hudson, stands today as one of the best illustrations of intensive cultural methods that is to be found in that region. He has been noted for many years as a specialist in grape-growing, peach-growing and general small-fruit culture. His receipts from his ninety acre farm were probably as large as those secured by any other grower working an equal extent in the Hudson River region.

He was an active member of the local horticultural society, the Western New York Horticultural Society and was one of the organizers and promoters of the Eastern New York

Horticultural Society. Governor Odell recognized his ability by appointing him as a delegate from this state to the National Farmers' Congress, and Governor Flower made him a member of the Board of Control of the New York State Agricultural Experiment Station. He was prominent as an institute speaker, and as an authority on horticultural matters was much in demand at horticultural conventions and institute gatherings.

Mr. Barnes was the descendant of a family which has been long and honorably indented with the history of the eastern states. His immediate ancestors settled on Long Island early in the eighteenth century. He was the son of Nathaniel Barnes who came to Middle Hope in 1829. He leaves a son, Edwin W., in charge of the homestead and a grandson much interested in fruit culture and one who, if spared, will in time continue the family on the ancestral estate. Mr. Barnes was particularly interested in educational matters and it was a special delight to him at all times to help young men. His place in fruit-growing circles in the eastern part of the state cannot be filled, and his memory will be pleasant to recall in the minds of hundreds of his fruit-growing friends who have either known or heard of him at home or abroad.

The Cornell Countryman

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DECEMBER, 1904

Students Classified According to Countries

Of the 178 undergraduate students registered in the College of Agriculture at Cornell University 79 reside outside of the State of New York. Twenty-nine, or about one in six, come from foreign lands.

In addition to the Philippine and Hawaiian Islands, sixteen foreign countries are represented and twenty states and territories besides the State of New York have furnished one or more students. The following table shows the registration of the undergraduates according to different countries:

New York	99
Other States	50
Argentina	3
Austria	1
Brazil	3
Bulgaria	1
Canada	3
China	2
Cuba	1
England	2
France	1
Germany	2
Hawaiian Islands	1
Japan	1
Mexico	1
Nicaragua	1
Peru	1
Philippine Islands	2
Roumania	2
Sweden	1
Total	178

To the Young Men on the Farm

During the last few years I have made it my business to associate with as many Wintercourse men as possible. I think I understand fairly what they expect to find, how they obtain results beyond their expectations in some cases, how they are disappointed in others, to see however in later years that those things which appeared unnecessary to them, were really the essentials. Having gone through the same process myself, coming fresh from the farm, looking at things from a practical point of view, I want to say this:

1. No young man on the farm to-day will be able to compete successfully without the study of the principles underlying agriculture.
2. The money invested in a wintercourse in Agriculture, invested by a young man with lots of common sense, doubles itself, and far more, during the first year.
3. The various influences of study, reading, friends, teachers, men will open a new world to you.
4. While you can obtain any single one of these points by work and study at home, you cannot obtain all of them there.
5. You have to get away from home to show the stuff that you are made of, at home.
6. These points are the results of conversations with many wintercourse men who have gone back to the farm and of a scrutinizing judging of their success in practical life.

C. B.

Cornell Wintercourse in Agriculture 1905

The registration in the Wintercourse for the winter 1905 shows the same remarkable increase which manifested itself in the

entrance of regular and special students in Agriculture in the University. There have registered so far and are accepted:

Poultry Course	11
Dairy Course	90
General Agriculture Course	34
Total	135

The registration of students in the General Agriculture course is usually delayed up to the last minute, and to judge by the precedent of former years we may surely expect to have here on January 5th a contingent of:

Poultry Course	18
Dairy Course	75
General Agriculture Course	100
Total	193

How Winter-course Men are Reached!

The preparing of agricultural literature is one thing, the skillful distribution of it is another. How does the extension work reach the men for the Wintercourse? Dr. Fletcher has followed a careful plan of campaign and it may be interesting to know where he finds his students. A leaflet giving a synopsis of the courses offered was prepared, entitled "Opportunities for Young Men." These leaflets were distributed as follows:

To the lecturer of every subordinate Grange with a letter;

Ten to every Farmers' Institute speaker;

To 600 rural newspapers with a press notice;

One to every student in the College of Agriculture, now enrolled;

A letter with two announcements to every former student of the College of Agriculture;

To 2000 Farmer's Reading Course readers, etc., etc.

In addition 5,000 prospectus of the College were sent to Creameries, Granges, etc.

If we have gained 40 per cent in the registration of regular and special students over last year we want a much greater increase from the farm directly. Every additional Wintercourse student in the College represents an increase in the annual value of the farm products of his state.

Agricultural Science Register

The establishment of an Agricultural Science Register is being agitated by the Office of Experiment Stations of the United States Department of Agriculture. The purpose of such a register is to gather together reliable data regarding the principal facts in the life and official work of all the men engaged in instruction and research in agriculture and the related sciences in the United States. When such data are classified and arranged in card catalogue form, they will furnish ready information concerning men who are being considered for appointment to positions in the Department, and in the agricultural schools, colleges, and stations, in the different States. It will also furnish definite information to the Department regarding men engaged in the agricultural institutions of the country who may be needed for making up articles for the Experiment Station Record, and in preparing articles for other Department publications.

Letters have already been sent out to the different agricultural institutions and experiment stations enclosing blanks asking for such data as name, age, address, education, experience, present positions, particular

qualifications along special lines, titles of all publications and names of persons for references. Dr. True realizes that the value of such a catalogue will depend almost entirely upon the extent to which those eligible to registry avail themselves of the privilege, and

therefore asks all to co-operate and furnish as complete information as possible. It is intended to ask for corrections in the register at intervals of one year, but changes will be welcome at any time.

GENERAL AGRICULTURAL NEWS

The annual meeting of the Association of American Agricultural Colleges and Experiment Stations was held at Des Moines, Iowa, November 1st to 3rd. The meeting was largely attended, nearly every state being represented. Many questions of public and educational policy came up before the Association. The full Association meets in the morning and also in the evening. In the afternoon it divides into two sections, one representing College work and the other Experiment Station work. Some of the leading subjects that were discussed were: Military Drill in the Land Grant Colleges; the relations of the Experiment Stations to the Department of Agriculture at Washington; means of extending and popularizing the work of the agricultural colleges; the relation that teaching should bear to experimenting on the part of Experiment Station officers; the teaching of agriculture in the rural schools; whether it is within the province of the "colleges" established by the Land Grant Act to teach elementary subjects as well as those subjects that are now considered to be of collegiate grade; what degrees should be given for work in the Agricultural Colleges.

Two very important matters of legislation are now before Congress, in which the Association is vitally interested. One is the Adams bill for increasing the funds available for the Experiment Stations of the different states; another is the Mondell bill to establish mining schools. The Executive Committee of the Association has these and other important matters in charge. Director L. H. Bailey was

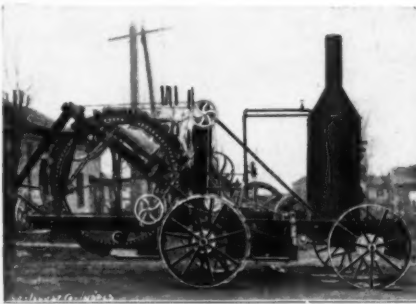
elected a member of the Executive Committee. The other members of the committee are President H. C. White, Georgia, Chairman; Director W. H. Jordan, Geneva; Director C. F. Curtiss, Iowa, and President J. L. Snyder, Michigan.

Director Bailey was made Chairman of the Committee on Graduate Study. This committee has in charge the holding of Graduate Schools of Agriculture. The first of these schools was held two years ago at the University of Ohio, largely under the influence of Professor T. F. Hunt. The committee recommended to the Association that a Graduate School be held every two years at some one of the leading agricultural colleges beginning, if possible, this coming summer, and this recommendation was adopted. The whole subject of the management of these schools was left in the hands of this committee. The committee is now issuing a statement to the agricultural colleges of the country in regard to the advisability of such schools and also in regard to the financing of them. It is felt by the Association that these schools are very important not only because they offer a means of securing additional training, but because they may also serve as gathering places for teachers and experimenters. There is now no recognized gathering place for the officers of the agricultural colleges and experiment stations. It is hoped that arrangements will be made for holding such a graduate school this coming summer. The other members of the committee of Graduate Study are Doctor A. C. True, Washington, D. C., and the Presidents of the Univers-

ities of Tennessee, Ohio, Vermont, Missouri and Nevada.

At the close of the meeting of the Association the delegates visited the agricultural college at Ames, Iowa, and were pleasantly entertained by the institution. The meeting was an earnest and enthusiastic one, and a great amount of public business was transacted.

* * *



THE BUCKEYE TRACTION DITCHER

Professors Roberts and Stone recently made a visit to the Burt Olney Canning Co. of Oneida, N. Y. They report that this company is tilling some seven or eight hundred acres of land in the vicinity of Oneida, growing peas, string beans and garden beets for the canning factory. Among the many interesting things to be seen on this farm one deserves special mention as it is probably the only one of its kind to be seen in operation in New York. Reference is made to the Buckeye Traction Ditcher which the company recently secured from The Van Buren, Heck & Marion Co., Findlay, Ohio. This machine may be crudely described as a traction engine upon which is mounted a huge buzz-saw—only the teeth of this saw are adapted to digging in the earth instead of cutting wood and are accompanied by a series of pockets or scoops that gather up the loosened earth and carrying it to the top of the wheel drop it on a short but broad endless belt that conveys it to one side and drops it at the proper distance from the ditch. This machine

digs a ditch about sixteen inches wide, and any depth not exceeding five feet. Grade stakes with "T" heads are set along the line of the drain ahead of the machine which together with a sighting rod attached to the machine enables the operator to keep the bottom of the drain at proper grade no matter what the unevenness of the surface over which the engine passes. A press shoe carrying part of the weight of the machine rests in the bottom of the finished ditch and leaves a crease along the bottom just right to receive the tile. A skilled man with ditching tools could not do so good a job of fixing the bottom. Under favorable conditions the machine is said to open 100 rods of ditch in a day of ten hours. At the time of this visit not more than 60 or 70 rods had been accomplished in a day. Stones, of course, interfere with the work though if not too large to be taken up in the scoops they will be handled all right. When a large stone is struck it must be dug out by hand. The machine promises to reduce the cost of draining on clay soils very materially.

* * *

According to the *Dairy and Produce Review* an Ohio creamery became entangled in the meshes of the Internal Revenue law concerning adulterated butter. A consignment of 1186 pounds was seized by the revenue officers of Toledo. The charge is "moisture contents above 16 per cent." The fine imposed consisted of a penalty and a fine of 10 cents per pound. The officials of the creamery did not know that they were violating the pure food laws.

* * *

Abdel Hamid Abaza, Egyptian representative to the St. Louis Exposition, who has been making a visit to Washington, does not believe that Egypt is in any wise behind the United States in Agricultural methods. "While you clever Yankees," he said, "occupy the leading position in almost every branch of human progress, I am inclined to think that you

are not the peers of the Egyptians in that most important of all occupations—agriculture. The reason we excel you in this is that we have been at it much longer; for 7000 years tilling the soil has been the chief business of the people of Egypt, but over here farming is still in its infancy. Our dense population forces us to compel the soil to produce to its limit of capacity, while you sow the seed in many places and let the land produce whatever it will. The Egyptian farmer will get four crops in a year from the same land, against one in the United States. In the same field in our coun-

try you will see planting and harvesting going on simultaneously.—“*Country Gentleman*.”

We cannot deny that the Egyptian Commissioner is right in his statement that only the surface of agricultural possibilities has been skimmed in the United States. What does it show?

It shows that compared with all other professions Agriculture today offers the most promising field to the young man with brains, business ideas, snap, training and individual thought.

CORNELL NEWS

CAMPUS NOTES

Two bulletins will come from the Experiment Station this month on entomological problems. Bulletin 223, “The Grape-berry Moth,” by Prof. M. V. Slingerland, and Bulletin 224, by Prof. Slingerland and Fred Johnson. The latter covers:

I. Effective spraying for the Grape-root Worm.

II. A new grape enemy—the Grape Blossom-bud Gnat.

* * *

Bulletin 222 by H. H. Wing and J. A. Foord, “An attempt to increase the fat in milk by liberal feeding.” The experiment was carried on with a herd of 21 native mixed-breed cows, and extended over a period of four years. The rations fed were abundant and rather nitrogenous in character. An increase of one-fourth of one per cent. of fat in the milk (or a per centage increase of 6 per cent.) accompanied by a 50 per cent. increase in the total amount of milk and fat was secured. This increase was secured economically as far as food was concerned.

* * *

Dr. L. O. Howard, United States Entomologist from Washington, D. C., was in Ithaca for about two weeks early in November.

This year there is an innovation in the Poultry Institute. The director is to hold a special three days’ meeting at Ithaca Nov. 28, 29 and 30. The meeting is to be conducted jointly by Mr. Dawley and various departments of Cornell University. Following is the provisional program:

Regular Institute speakers, among whom will appear, Mr. T. E. Orr, Secretary of the American Poultry association; Mr. T. F. McGrew, a prominent poultry writer and judge; Mrs. George A. Monroe, and others.

Assisted by the New York State Veterinary College, Dr. V. A. Moore on “Important Diseases of Poultry;” Dr. Pierre A. Fish, on “Some Points on the Comparative Physiology of Poultry;” Prof. G. S. Hopkins, on “The Embryology of the Egg,” and Mr. W. B. Mack, on “Nature and Treatment of Roup.”

By the Department of Zoology, Mr. C. Bues, on “Poultry Parasites.”

By the Department of Poultry Husbandry, Prof. James E. Rice, on “Some Poultry Problems by Lime Light.” And by short talks from the following poultry students: Mr. J. G. Halpin, Mr. F. G. Thayer, Mr. H. F. Prince, Mr. H. Jennings, Mr. F. H. Ryan, Mr. R. C. Lawry, Mr. C. H. Chapman and Mr. C. A. Rogers.

Dean L. H. Bailey will deliver an address on "The Attitude of Agricultural Colleges and Experiment Stations toward Poultry Husbandry."

All the meetings are free and everyone interested in Poultry is welcomed.

* * *

Publicity in these columns has already been given to the co-operative effort by the American Peony Society and the Department of Horticulture leading towards a classificatory study of the peony. We are informed that the preliminary work has progressed favorably. European peony specialists have become interested and have forwarded important contributions. Thus far collections as follows have been received and planted:

Andorra Nurseries, Philadelphia, 43 varieties.

John Charlton & Sons, Rochester, N. Y., 105 varieties.

DeGraff Bros., Leyden, Hol., 131 varieties.

A. H. Fewkes, Newton Highlands, Mass., 36 varieties.

Jackson N. Perkins Co., Newark, N. J., 41 varieties.

L. van Leeuwen & Son, Sassenheim, Hol., 46 varieties.

Peterson Nursery, Chicago, Ill., 125 varieties.

J. F. Rosenfield, West Point, N. Y., 243 varieties.

W. & T. Smith Co., Geneva, N. Y., 55 varieties.

Ellwanger & Barry, Rochester, N. Y., 63 varieties.

* * *

The students of the Agricultural College have organized a football team this fall. Games have already been played between the regulars and substitutes, and between a picked team and the medical and veterinary colleges. Although defeated, the team has made a creditable showing against their heavier opponents.

* * *

The first meeting of the Poultry Assembly was held Wednesday even-

ing, Nov. 9th, C. A. Rogers in the chair. Mr. Rogers gave a short sketch of the history and object of the society after which Mr. Halpin read a poem entitled, "I love the hen." The constitution was read and a summary of last year's work given by Mr. Robitzer after which Prof. Rice addressed the meeting. After a heated discussion the following directors were elected: Halpin, Thayer, Prince, Kelly, Hungerford, Ryan and Gable.

* * *

Mr. J. S. Cates, B. Agr. '02 M. S. A. '04, from the North Carolina Agricultural and Mechanical College, is with us, and has registered as a candidate for his Ph. D. Mr. Cates takes his work in Agronomy and Animal Industry. For the past two years Mr. Cates has been with the North Carolina State Agricultural Department at Raleigh, N. C.

* * *

Mrs. Nellie Kedzie Jones of Kalamazoo, Mich., formerly teacher of Domestic Science at the Kansas Agricultural College, addressed the class in Home Economics on Nov. 4th and 7th. Her subjects were: "The Relation of Domestic Science to Education," and "The Successful Application of Principles to Housekeeping."

* * *

The university poultry flocks have been materially increased by the addition of about 500 pure-bred white leg-horns, which have been raised during the summer. Among these there are some exceptionally fine individuals.

* * *

The office of the Department of Dairy Industry has been moved across the hall to the old Curing Room No. 2, while the Department of Poultry Husbandry has occupied the room vacated by Prof. Pearson. Thus both departments have more office space than before.

* * *

R. S. Northrop, Michigan '01, who came to us a little over a year ago as

instructor in horticulture from a similar position in the South Dakota Agricultural College, has accepted the professorship of horticulture and botany in the Utah Agricultural College at Ogden, Utah.

* * *

Prof. H. H. Wing, Republican, was elected Alderman in the 4th Ward of this city, Nov. 7th, by an overwhelming majority.

FORMER STUDENTS

'98, B. S. A.—D. A. Williston is a practical horticulturalist, landscape architect, and forest engineer at Tuskegee, Ala.

'00, B. S. A.—In *The House Beautiful* for November 1902 is a six page illustrated article entitled "A Den Above a Shop." The designer and owner of the apartments is G. W. Wienhoeber, a successful landscape architect at 415 Elm St., Chicago. The "Den" which is above his father's florist establishment consists of a reception room, studio and two work rooms. All are connected by wide doors and when desired may be thrown into one apartment 64 feet long. The reception room is reached by a winding staircase and an old fashioned door fitted with a Dutch lever door handle. Half of one side of this room is occupied by a large window upon which is an artistic grape vine design. Beneath is a window box full of pink begonias and yellow daisies. The walls are wainscoted to a height of eight feet over which is a dull colored border reaching to a fine beamed ceiling above. The floor is of quartered oak finished off to a light color making a pleasing contrast with the dark paneling and the cabinet chairs and with two heavy tables comprising the furniture of the room. Besides a few nicknacks the chief decorations are pictures of Oxford College and Cornell University. The other rooms differ in detail, but all possess the same spaciousness and simplicity, lending to the whole an air of great comfort and luxury.

'01, Dairy.—James B. Morris after leaving Cornell took charge of the bottling plant on the Thorndale Stock Farms at Middlebrook, N. Y. He remained here for two years and then became manager of the milk department of the Filston Dairy Co., of Baltimore. At present he is manager for the Hygeia Dairy at Mount Vernon Ave. and 27th St., Baltimore. In each change Mr. Morris has responded to an increase in salary. He attributes his success very largely to the start which he got in dairy work at Cornell.

'01, Special.—Louis Moulton is a successful dairyman running a milk route at Cuba, N. Y. We are told that he is a hustler and is giving first-class service.

'02, Winter.—N. D. Wiese, '03 Dairy, stopped a day at Ithaca. Wiese is very successfully managing the farm at the "George Junior Republic" at Freeville, N. Y., and showing his executive ability by working with a contingent of boys. He is just enjoying a well earned vacation after three years of hard work. Mr. Wiese's youngest brother, who was with us last winter, has assisted him this last season and has charge of affairs during his brother's absence.

'02, Special.—C. C. Cole has an article entitled "An Agricultural Education," in the "Utica Semi-weekly Press" for Nov. 4, 1904. The author contends that although one may be able by general reading and farm practice to get a knowledge of how to perform farm operations, the best place to find out the reason for certain operations is at the Cornell College of Agriculture. A person who knows the reasons for farm operations, he says, will be enthusiastic for the work, and will have such a love for the chosen calling that success will be almost certain and assured. He further says that all persons who attend the agricultural courses at Cornell declare that they are greatly benefitted, and that they find farming a pleasant and profitable pursuit. Lastly he advises farmers' sons who have not decided to what profession they will devote their

attention to stick to the old farm, and if they can afford time for nothing else to take the short courses in agriculture this winter and thus take a greater part than they otherwise could in what has been the greatest occupation and must so continue to be in the future.

Ex.-'02.—Roy L. Lidgerwood entered as a special student in September, 1902, but was obliged to return home at the end of the first week. Since then he has been on his father's dairy farm at Putnam Station, N. Y.

'04. B. S. A.—Archibald Stone spent the summer on his father's farm at Binghampton, N. Y. Toward the end of September he began a milk test at Hamilton, N. Y.; at the end of a week, however, he received word to report at the Exposition at St. Louis for work in connection with the agricultural exhibits in the Educational Building, where he will remain until the end of the Exposition.

'04.—B. S. A.—During the latter part of the summer and early fall G. A. Bell acted as judge of live stock and poultry at several fairs in New York state. Later he went to St. Louis to take up the same work as Stone. Both Bell and Stone were at Des Moines, Iowa, November first, to attend the national convention of the Alpha Zeta fraternity.

'04. B. S. A.—W. F. Fletcher was in town for a few hours on November the eighth. He is working on the orchard investigations under Col. Brackett of the Division of Pomology, Bureau of Plant Industry. Fletcher reports the work as very interesting.

Ex.-'05.—Burton N. Gates is candidate for an A. B. degree next June at Clarke University, Worcester, Mass. He is specializing in biology. Last year he acted as assistant to Dr. Hodge. Gates also intends to take an advanced degree.

Ex.-'05.—Miss Lora T. Keegan has entered upon her second year of teaching at Portland Point, N. Y. As the district is a new one formed only last year, Miss Keegan has had the opportunity of building up the course

of study according to Cornell models. It goes without saying that the new district is a great success.

Ex.-'06.—Gilbert A. Flint, upon finishing his first year at the University, decided to take up practical farming immediately. He is now with his father on their four hundred acre farm at Armenia, Dutchess County, N. Y. On last election day he cast his first ballot for "Teddy."

CLASS OF 1903

Special.—John A. Clark returned to his farm at Bay View, Prince Edward Island. He was engaged in institute work last winter and has now found time for a year of work in the Ontario Agricultural College at Guelph.

B. S. A.—A. W. Cowell, Springdale, Pa., is draughtsman for J. W. Elliot, landscape architect in the German National Bank Building, Pittsburgh, Pa.

B. S. A.—E. J. Glasson is on the Dicks Plantation, Diana, Fla. This plantation is situated in the Everglades. Slight elevations are drained by open ditches, the dense vegetation is cut and burned, then the sod is turned with a one horse plow. While the soil is not deep, it is very rich in humus and has a perpetual supply of moisture from beneath. The crops planted are vegetables for the early northern markets and citrous fruits.

B. S. A.—H. A. Hopper has been reappointed assistant in Dairy Husbandry at the University of Illinois. He gives instruction in the university during the early part of the year, and during the remainder of the time is traveling through the state testing herds and giving lectures at institutes. The object of this work is to encourage the farmers to adopt more modern and profitable methods of milk production, and especially to improve the sanitary conditions of the dairy. A large part of the milk produced by Illinois goes to condenseries or is pasteurized and sent to St. Louis.

Special.—J. W. Elston is a New York state milk inspector. His address is Ithaca.

B. S. A.—Geo. H. Merrill is on the old homestead at Hampton Falls, N. H.

Special.—The account of the death of Eben Norton was mentioned in our last issue.

Special.—Miss Maude Palmer was married to Roy Hungerford, '99 winter course, on May 11, 1904. Mr. and Mrs. Hungerford are now living on their farm at Waterburg, Tompkins County, N. Y.

Special.—F. E. Robertson, as overseer of the Empire City Farms at Black Creek, N. Y., is "trying to master the art of pleasing both the employees and the employer." On the farm are one hundred and twenty-five highly bred race horses, fifty Shetland ponies, and a herd of twenty-five cows. Recently the proprietors have purchased McKinney, 2:11 1-4, for \$50,000. Robertson calls him "the greatest living or dead speed-producing sire that ever existed."

Ph. D.—Emil P. Sandsten is at the head of the department of Horticulture, and is also Professor of economic entomology at the University of Wisconsin. Walter Brown, Cornell B. S. A. '04, is associated with Professor Sandsten in the horticultural department.

'03, M. S. A.—John P. Stewart writes us from Normal, Illinois, where he is teaching nature-study and mathematics in the State Normal. Stewart says the Countryman comes like a breeze from the old campus and wishes it the highest success.

B. S. A.—George F. Warren came to us from Nebraska, where, after graduating from the university, he had gone into school work throughout the state. He was Fellow in Agriculture last year, received his master's degree in June and is now a candidate for a Ph. D. in horticulture. For the past two summers Warren has been making an orchard survey of Wayne and Orleans counties for the College of Agriculture. Over 12,000 orchards have been personally visited and a great mass of data collected. When these reports are completed some rather startling results may be expected. It is said that the place finds the man. Last year when the Cornell Countryman was organized G. F. Warren, editor, and Christian Bues, business manager, were ready for the opportunity. They faced the difficulties of the new enterprise and within six months time had established the paper upon a firm basis and won for it a place in the front rank of college publications. In this connection all Countryman readers will join us in a hearty vote of thanks to George F. Warren, first editor of the Cornell Countryman.



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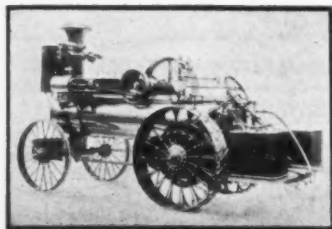
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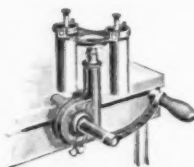
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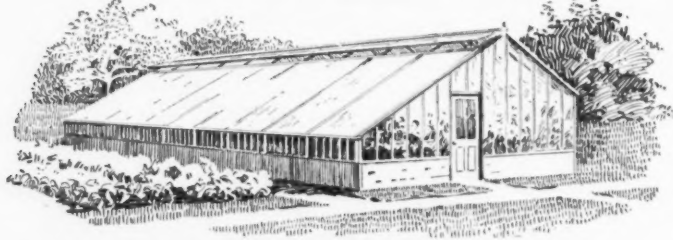
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